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LETTER SUBMITTING WORK PLAN FOR SUPPLEMENTAL SCREENING AT STUDY AREA 17 NTC ORLANDO FL
12/31/1996
ABB ENVIRONMENTAL

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ABB

December 31, 1996 8519.291

Commanding Officer
SOUTHNAVFACENGCOM
P.O. Box 190010
2155 Eagle Drive
N. Charleston, S.C. 29419-9010

Attn: Ms. Barbara Nwokike, Code 187300

Subject: NTC, Orlando, McCoy Annex
Study Area 17 Work Plan
Contract; N62467-89-D-0317/CTO 107

Dear Barbara:

Enclosed is the Work Plan for supplemental screening at Study Area 17, McCoy Annex. This Work Plan was prepared as requested by the OPT to better access the impact of chlorinated compounds on the groundwater.

The Work Plan concept was presented to and approved by the OPT during the December, 1996 meeting. As soon as we obtain full concurrence, we plan to iniate field efforts for this supplemental screening.

Should you have any questions concerning this document, please call me at (407) 895-8845.

Very Truly Yours,
ABB ENVIRONMENTAL SERVICES, INC.

John P. Kaiser
Installation Manager

JK/cp
cc: W. Hansel (SDIV)
J. Mitchell (FDEP)
Lt. G. Whipple (NTC, ORL)
N. Rodriguez (EPA)
R. Allen (ABB-ES)
O. McNeil (Bechtel)
S. McCoy (Brown & Root)
File

WORK PLAN
SUPPLEMENTAL SCREENING
STUDY AREA 17, DEFENSE PROPERTY DISPOSAL OFFICE (DPDO)
MCCOY ANNEX, NAVAL TRAINING CENTER, ORLANDO, FLORIDA
DECEMBER 1996

INTRODUCTION

This work plan was developed in response to the Orlando Partnering Team's (OPT) request to evaluate further the impact of chlorinated organic compounds to the groundwater at Study Area (SA) 17 (Defense Property Disposal Office). Chlorinated organic compounds were detected in one groundwater sample collected during site screening, at a concentration in excess of screening criteria. The objective of the supplemental screening is to evaluate the general limits and degree of impact to the groundwater. This will be accomplished by the installation of additional monitoring wells so that groundwater samples can be collected for laboratory analysis.

Site Description Study Areas 17 is located in the central part of the McCoy Annex of the Naval Training Center (NTC), Orlando (Figure 1). The area is comprised of Buildings 7178, 7189, 7190, 7191, and 7193. The site is bounded on the west and south by a drainage canal, on the east by Avenue C, and on the north by an inactive railway line (Figure 2). There is a large compound in the central part of the area which was formerly used for vehicle storage. A wash rack is located to the immediate north of the compound. Small, graveled parking aprons surround each building. The remainder of the site is covered with vegetation. Water level data collected from the existing monitoring well network indicates that the water table surface is approximately four feet below land surface (bls) across most of the site. Groundwater in the shallow (surficial) aquifer flows south-southwest toward the drainage canal.

Background During the site screening investigation five shallow monitoring wells were installed at SA 17 in May 1995. Groundwater samples were submitted to a laboratory for a full suite Contract Laboratory Program (CLP) target compound list (TCL) and target analyte List (TAL) analysis. Organic chlorinated compounds were detected at only one well location - OLD-17-04 (Figure 2). The chlorinated compounds detected in excess of detection limits were trichloroethene (TCE), vinyl chloride (VC), and cis-1,2-dichloroethene (1,2-DCE). The compounds were detected at concentrations of 42 ug/L (parts per billion), 190 ug/L, and 200 ug/L, respectively. The concentration of all three compounds is in excess of Florida Department of Environmental Protection (FDEP) drinking water standards. A second sample was collected from the well in June 1996 to verify the original results. The same three compounds were detected but at higher concentrations (TCE at 100 ug/L, VC at 610 ug/L, and 1,2-DCE at 600 ug/L).

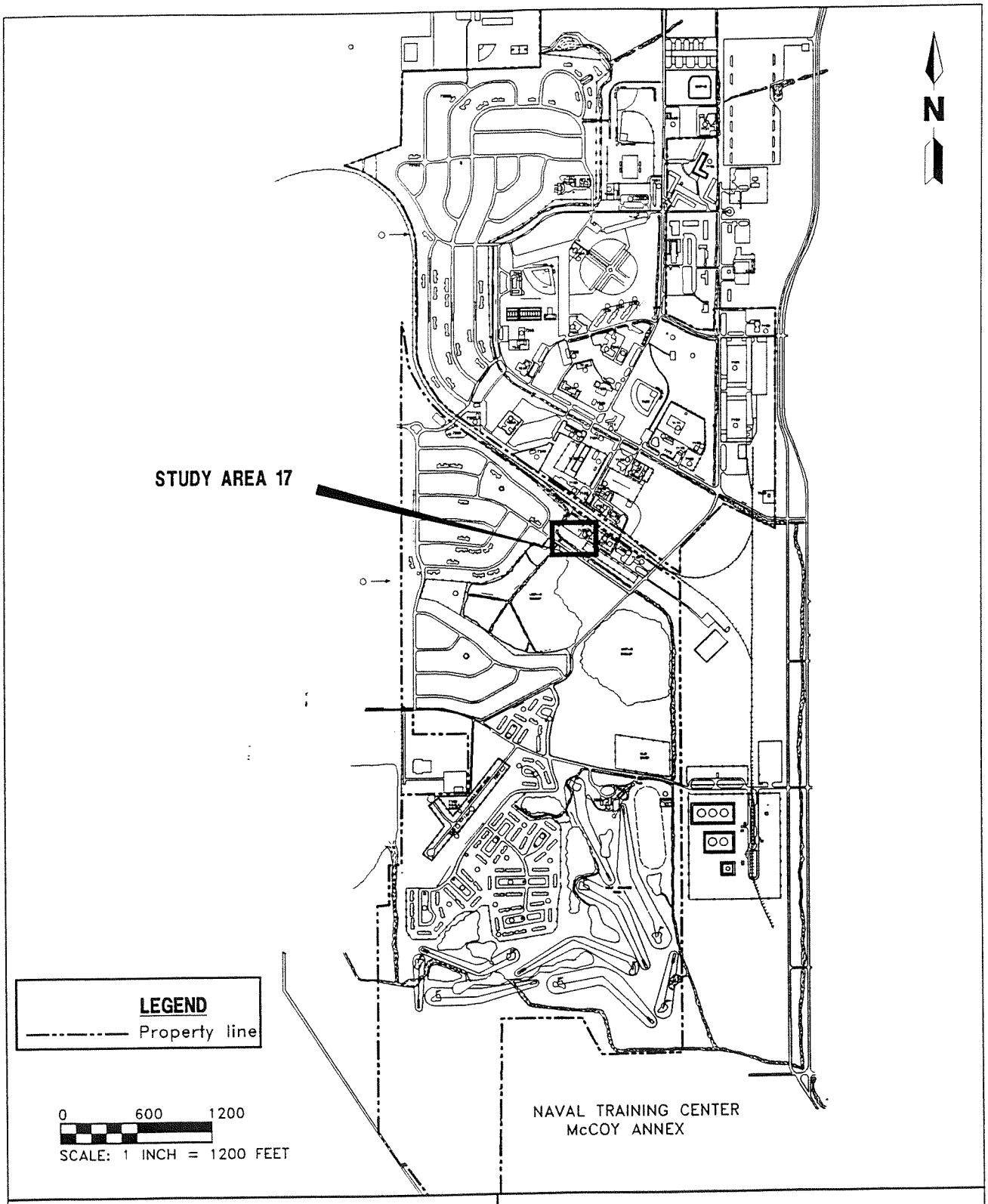

FIGURE 1
STUDY AREA LOCATION

SUPPLEMENTAL SCREENING WORKPLAN
STUDY AREA 17

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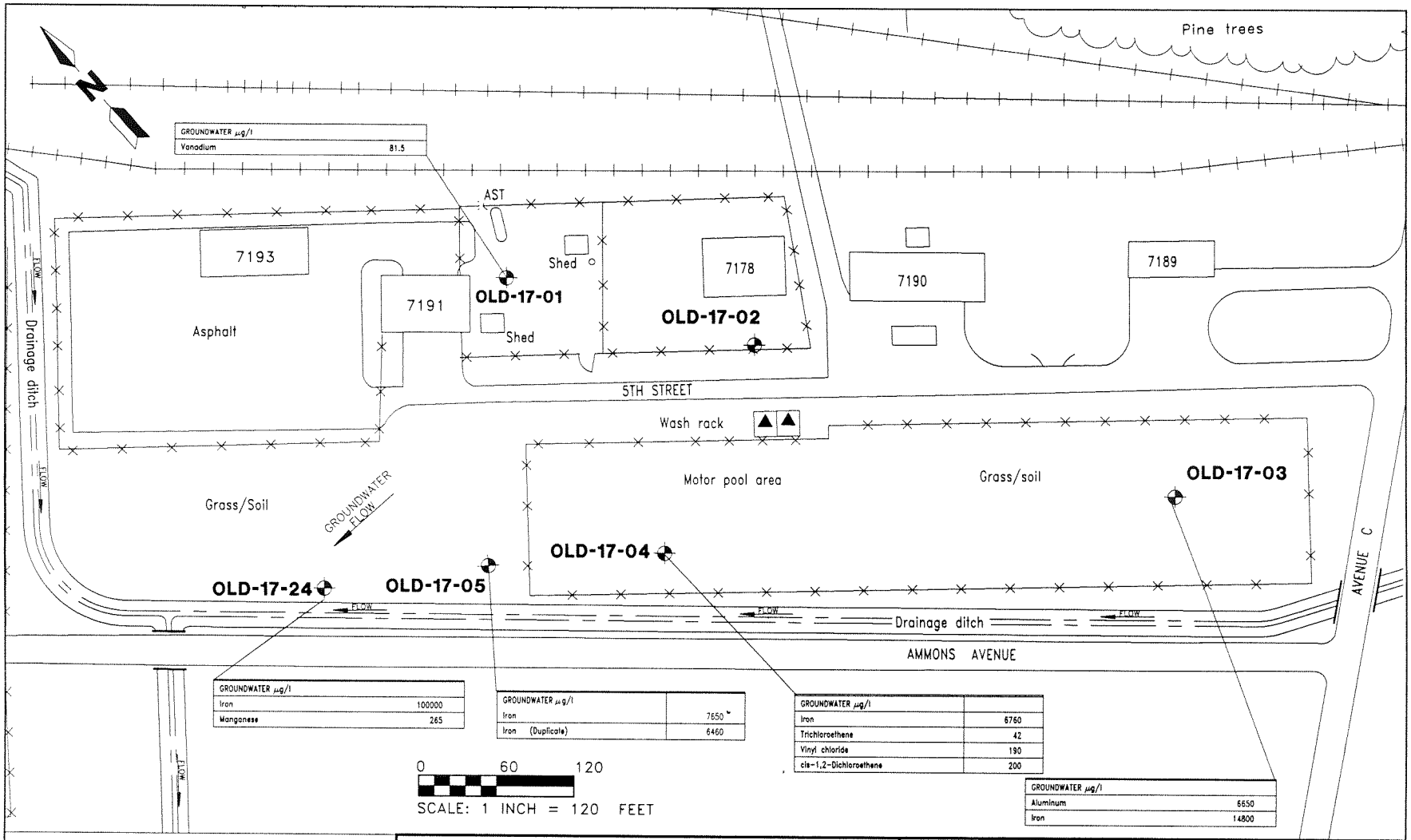

LEGEND

AST	Aboveground storage tank
µg/l	micrograms per liter
OLD-17-02	Existing soil boring and monitoring well location

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FIGURE 2
EXISTING MONITORING WELL LOCATIONS, STUDY AREA 17

SUPPLEMENTAL SCREENING WORKPLAN
STUDY AREA 17

NAVAL TRAINING CENTER
ORLANDO, FLORIDA

SCOPE OF SERVICES

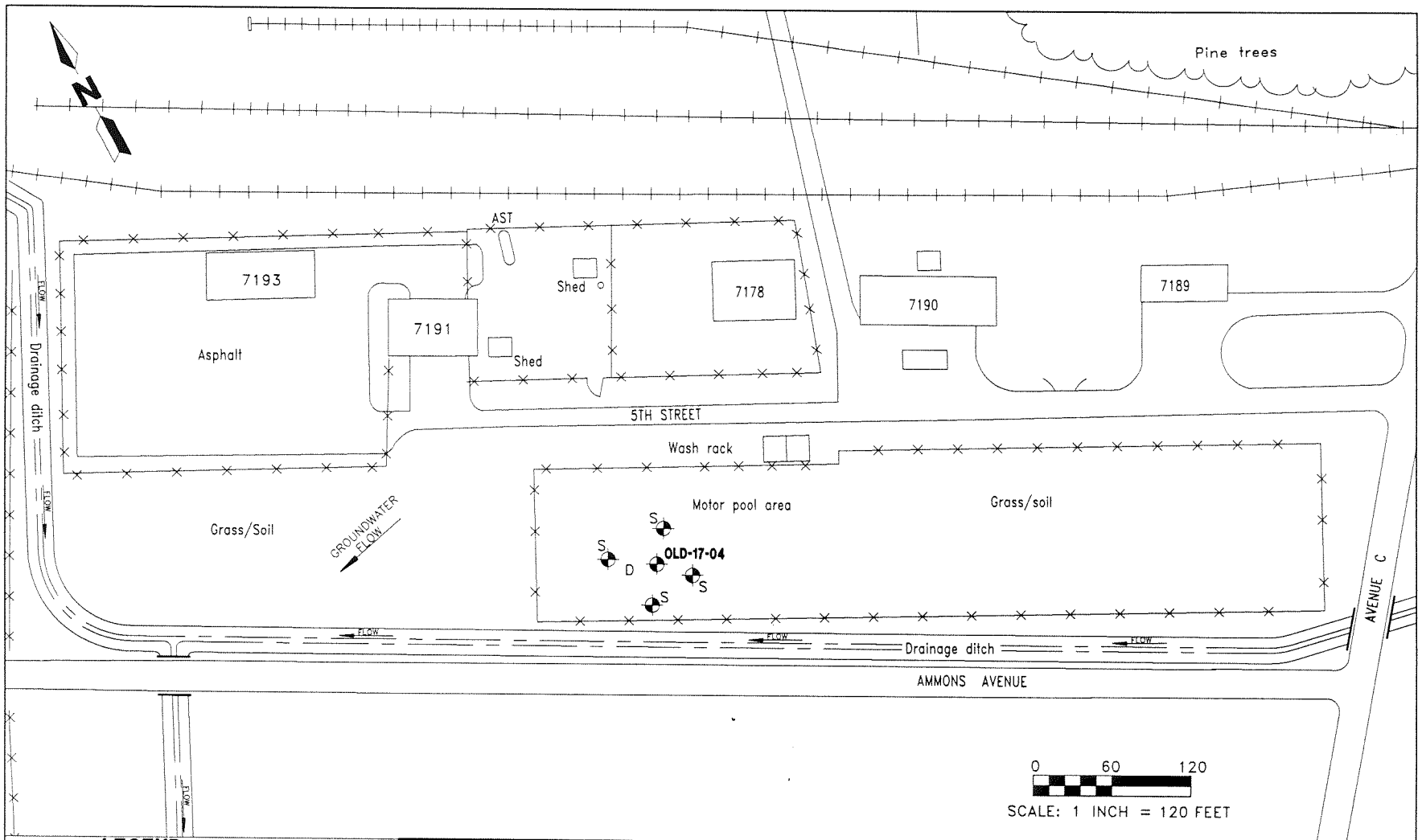
Objective The objective of the supplemental field effort is to collect additional data for further evaluation of the degree and extent of impact resulting from chlorinated organic compounds in the groundwater.

Groundwater Screening Methodology

ABB-ES proposes to install five monitoring wells in the vicinity of OLD-17-04 in order to test the quality of the groundwater in the adjacent area. Four of the monitoring wells will be shallow wells, constructed similar to OLD-17-04 with the screened portion bracketing the water table. Because the groundwater flows south-southeastward, one of the shallow wells will be placed approximately 30 feet from OLD-17-04 in the upgradient direction. A second will be placed 30 feet downgradient, the final two will be placed 30 feet on either side of the well laterally to groundwater flow. A fifth well will be placed 10 feet downgradient of OLD-17-04 and constructed either as an intermediate or deep well, depending upon the lithology of the surficial sediments in the impacted area. The lithology will be determined by collecting and cataloguing soil samples continuously from the surface to the base of surficial aquifer (i.e. the top of the Hawthorn Formation) in the impacted area. If an aquitard is encountered within the surficial aquifer, an intermediate-depth well will be installed with its screen set just above the surface of the aquitard. If no aquitard is encountered, then a deep well will be constructed with its screen set along the surface of the shallowest clay encountered with the Hawthorn Formation. The proposed well locations are shown on Figure 3.

For the shallow wells a microwell construction will be utilized. The microwells will be installed using the TerraProbe℠, a van-mounted drilling device that utilizes hydraulic pressure to penetrate into the subsurface. These wells will be constructed with 3/4-inch diameter poly-vinyl chloride (PVC) pipe with prepacked with a filter sand surrounding the screen. Nine feet of screen (0.010-inch slot) will be used for each shallow well. The screens will be constructed so that two feet of screen extends above the water table surface. A two-foot thick layer of bentonite will be placed above the filter pack, and the remainder of the borehole will be filled with grout. The bentonite will be allowed to "cure" for at least twelve hours prior to pouring the grout. The microwells will be grouted to within approximately 1.5 feet bls and completed with a concrete pad, bolt-down vault, and locking cap.

Before installing the fifth well, a deep boring will be placed approximately 15 feet in the downgradient direction from OLD-17-04. Standard Penetration Testing (SPT) will be performed to collect soil samples for lithologic characterization. The soil samples will be collected continuously from 16 bls to the shallowest significant clay within the Hawthorn. Each SPT sample will be analyzed for the presence of any organic vapors using a flame ionization detector (FID). The lithology of the surficial aquifer sediments and the FID results will be used to determine construction specifications on the fifth well, whether in is screened at an intermediate or deep interval. If a significant concentration of organic vapors are encountered, or a significant low permeability soil horizon is encountered, then an intermediate depth monitoring well may be installed with its screen set just above that unit. If neither one occurs then only a deep



LEGEND

- S — Shallow monitoring well location and designation
- D — Deep monitoring well location and designation
- OLD-17-04 — Existing monitoring well location and designation

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FIGURE 3
PROPOSED MONITORING WELL LOCATIONS

SUPPLEMENTAL SCREENING WORK PLAN

NAVAL TRAINING CENTER ORLANDO, FLORIDA

monitoring well will be installed. If an intermediate well is installed it shall be given a "B" designation. A deep well will be given a "C" designation.

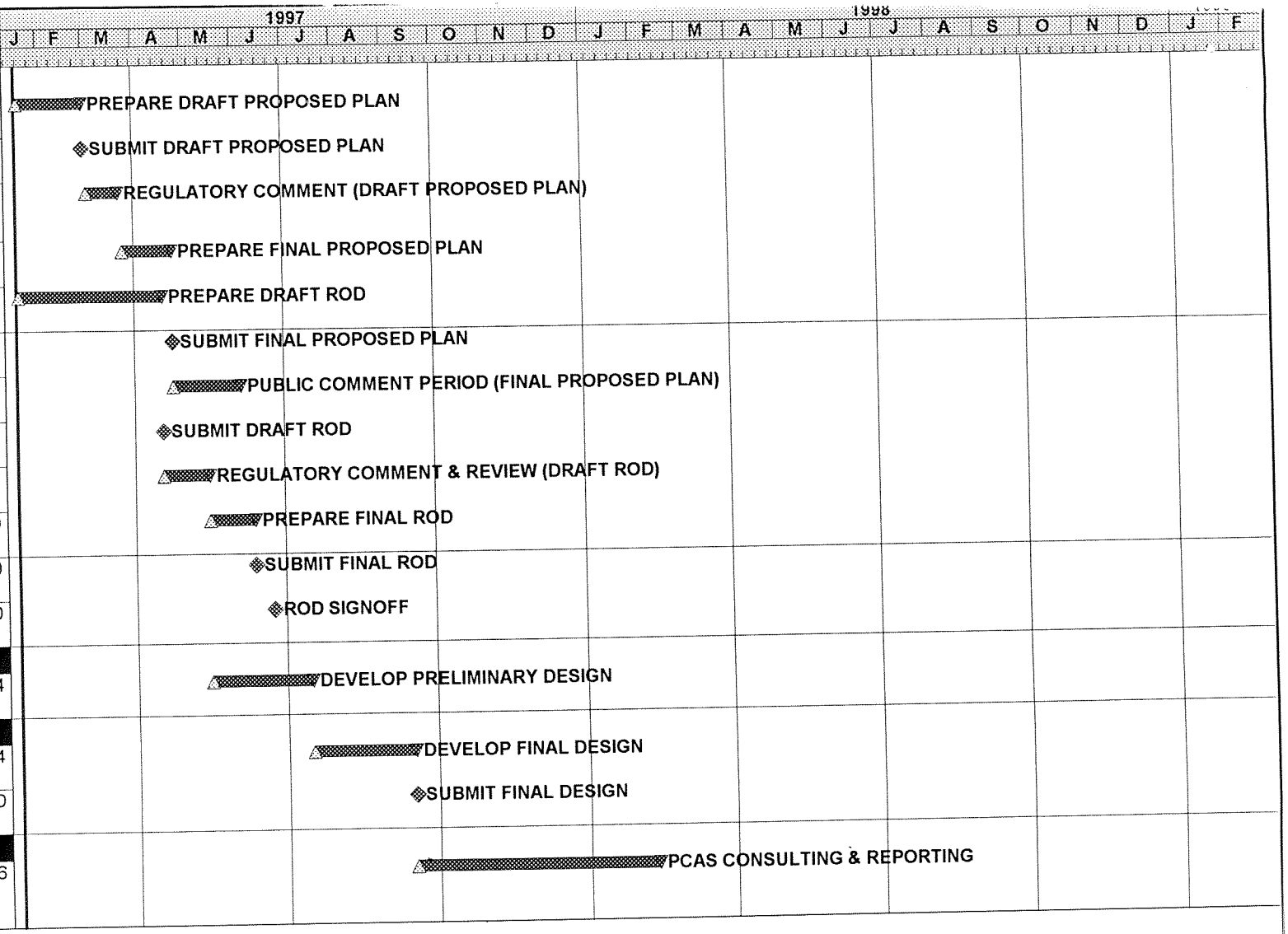
In either case, the fifth well will be constructed with five feet of two-inch diameter, 0.010 slot PVC screen and riser. The filter pack will be comprised of 20/30 silica sand set to a height of two feet above the top of the screen. The remainder of the construction will be as with the shallow wells.

ABB-ES's field geologist will supervise the drilling operation, including classifying and cataloging soil samples in accordance with the Unified Soil Classification System (USCS). The project team will determine well construction, screen placement, and the need for additional wells.

The wells will be developed by pumping water from the well to remove as much fine material as possible in accordance with ABB-ES' site-specific Project Operations Plan (POP). During development, the chemical parameters of the groundwater, including temperature, pH, specific conductivity, and turbidity will be measured and recorded regularly. Development will continue until all of the parameters have stabilized. The shallow wells will not require development because of the limited amount of water in the well.

Following development, the wells will be purged and sampled using the low-flow technique described in the POP. As with development, the chemical parameters of the groundwater will be measured and recorded regularly. Purging will continue until all of the parameters have stabilized. The groundwater samples will be submitted to a certified laboratory for analysis of volatile organic compounds using EPA Method 524.2.

Activity ID	Early Start	Early Finish	Original duration
12 DECISION DOCUMENTS			
OZ512001	20JAN97	28FEB97	30
OZ512002		28FEB97	0
OZ51250	03MAR97	21MAR97	30
0Z512003	24MAR97	23APR97	23
OZ512005	20JAN97	17APR97	64
OZ512004		23APR97	0
OZ5124005	24APR97	04JUN97	30
OZ512006		17APR97	0
OZ512050	18APR97	15MAY97	20
OZ512007	16MAY97	12JUN97	20
OZ512008		12JUN97	0
OZ512009		23JUN97	0
13 PRELIMINARY DESIGN			
OZ513001	16MAY97	16JUL97	44
14 FINAL DESIGN			
OZ514001	17JUL97	16SEP97	44
OZ514002		16SEP97	0
17 PCAS CONSULTATION & REPORTING			
OZ517001	17SEP97	11FEB98	106



Project Start	19JAN97
Project Finish	11FEB98
Data Date	19JAN97
Plot Date	16DEC96

Early Bar
Float Bar
Progress Bar
Critical Activity

OU1R

Sheet 1 of 1

ABB-ES
NTC Orlando OU1 ROD AND FINAL DESIGN
PROPOSED BASELINE SCHEDULE

REVISED 30/12/96